Ross

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

WU-16J

November 29, 2005

Ms. Jill D. Jonas, Chief
Bureau of Drinking Water and Groundwater
Division of Water
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921

Dear Ms. Jonas:

This letter transmits our final report, which documents our findings and recommendations from the evaluation we conducted of your Bureau's UIC program on September 6-8, 2005. The review was quite productive and we continue to be impressed with the high quality of the UIC program being implemented for Class V wells in Wisconsin. We also continue to be impressed with the outstanding level of commitment and dedication of both the management team and the staff.

Our overall findings indicate that the Wisconsin DNR's Bureau of Drinking Water and Groundwater is operating a sound and effective UIC program. The Wisconsin DNR's current program continues to be consistent with the approved program and continues to be on track toward meeting program objectives and workplan commitments. We are especially pleased with the commitment that your program has made to meet the national priority of closing motor vehicle waste disposal wells. The expertise that your program has developed over the years, along with the outstanding coordination with other programs and regional offices, has enabled the Bureau of Drinking Water and Groundwater to continue to implement an exemplary program, despite resource shortfalls. We commend you, your staff and all those who have worked closely with you in this effort.

Thank you for your hospitality and cooperation during our visit. We look forward to continuing to build on the partnership that has developed between our agencies over the years through technical exchange, information sharing, and coordination on national and regional efforts. We appreciate the national leadership role that the Wisconsin DNR has played in the developing area of aquifer storage and recovery (ASR), and the support that you have provided us on ASR issues, as we begin to address such applications in other states. We in turn will explore possible assistance that we may be able to provide to the motor vehicle waste disposal well closure effort, including both technical and enforcement support. If you or members of your staff have

questions or need additional information, please contact me at (312) 353-5089 or John Taylor of my staff at (312) 886-4299.

Sincerely yours,

Charles T. Elly

Charles T. Elly, Chief
Underground Injection Control Branch

Enclosure

cc: Lee Boushon, Bureau of Drinking Water and Groundwater
Richard Roth, Bureau of Drinking Water and Groundwater

THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES
BUREAU OF DRINKING WATER AND GROUNDWATER
UNDERGROUND INJECTION CONTROL (UIC) PROGRAM
FOR CLASS V WELLS
PROGRAM EVALUATION REPORT
PREPARED BY USEPA, REGION 5
SEPTEMBER 2005

BACKGROUND

The Wisconsin Department of Natural Resources (WDNR) received primacy for the UIC program in 1983 under the provisions of the Safe Drinking Water Act, Section 1422. Under these provisions, the WDNR has enforcement authority to regulate all classes of injection wells operating in Wisconsin to assure that such operations do not endanger drinking water sources. Since Class I, II, and III wells are banned in Wisconsin, the program consists of Class V wells, with the authority to also control Class IV wells, although none are currently known to exist in Wisconsin. To retain primacy, the state must implement a program that is at least as stringent as Federal law. The state must also meet state program requirements per the primacy agreement and as set forth in 40 CFR Part 145. In support of state programs, primacy state agencies receive federal funding in the form of continuing environmental program grants issued under the authority of 1443(b) of the Safe Drinking Water Act. The WDNR receives approximately $84,000 in Federal funds annually for its UIC program and, currently manages an inventory of 1850 Class V wells as well as any Class IV wells found or authorized under a state or Federal remediation effort. As part of the funding process, state agencies must annually submit a grant workplan outlining those activities that the state will carry out to fulfill program requirements. Federal regulations at 40 CFR, Part 35.150 require that the United States Environmental Protection Agency (USEPA) evaluate continuing environmental program work accomplished during the grant period against the objectives set forth in the grant work plan. Program evaluations also contribute to the fulfillment of U.S. EPA's obligation to ensure that states which have been delegated the authority to administer federal programs are meeting the terms of their delegation requirements.

As part of USEPA's efforts to meet its regulatory obligation for program evaluation, a review team from the USEPA, Region 5's Underground Injection Control Branch conducted an in-depth review of the Wisconsin Department of Natural Resources' UIC Program on September 6-8, 2005. This was the first in-depth review conducted of WDNR's UIC program since May 2002. The main purposes of the review were to assess the state's effort toward meeting base program requirements, and to determine how WDNR and Region 5 could jointly address in Wisconsin the high national priority of closing motor vehicle waste disposal wells (MVWDWs). The review team focused on all areas of the Class V program, with special emphasis on steps that could be taken to close MVWDWs.

PARTICIPANTS

USEPA Region 5 – Charles Elly, John Taylor, Ross Micham, Leslie Patterson
WDNR – Lee Boushon, Richard Roth, Sharon Schaver, Theresa Evanson, Dave Johnson, Bill Phelps, Duane Schuettpelz, Lynn Persson, Eric Rortvedt, Jeff Helmuth , Tom Gilbert, Jon Heinrich
Wisconsin Department of Commerce – Roman Kaminski
Oak Creek Water and Sewer Utility – Mike Sullivan, Steve Yttri

EXECUTIVE SUMMARY

The review team's specific observations and recommendations were discussed during the exit interview with WDNR representatives Lee Boushon and Richard Roth. They are presented in greater detail in this report, with the review team's recommendations at the end of each general area. In sum, we have found that the WDNR continues to administer an outstanding and exemplary UIC program, despite serious resource limitations. Among program accomplishments, we would specifically highlight four areas:

(1) **Strong leadership and commitment**. The WDNR has shown a commitment to accomplish priority work despite constrained resources, as reflected in the commitment to close all currently inventoried MVWDWs within the next three years. This commitment, which serves as an example to other states, begins with the UIC Program Coordinator and extends up through the management chain.

(2) **Outstanding coordination among programs**. The success of the WDNR UIC program is due in no small measure to the effective leveraging among programs, including WDNR central office and regional office staff, and coordination with the Wisconsin Department of Commerce (Commerce). This is a reflection of the initiative shown by the UIC Program Coordinator, but also is consistent with the overall WDNR regulatory approach.

(3) **Special emphasis given to Aquifer Storage and Recovery (ASR)**. ASR is an emerging technology, which holds significant potential for water supply, but also poses major risks which have not been well examined in other parts of the country. The WDNR has taken protection of entire aquifers very seriously and has been a national leader in identifying and studying the risks which need to be addressed.

(4) **Adoption of Class V Rule**. WDNR faced unique challenges in adopting the Class V Rule due to misinterpretations by various groups about the nature of the UIC program and the regulation of septic systems. Despite the difficulties, WDNR staff persevered and this important Rule was adopted .

In addition to the WDNR's UIC program's many accomplishments, major challenges lie ahead. This includes closure or permitting of known MVWDWs, and finding and dealing

with other endangering wells, including MVWDWs, which undoubtedly exist throughout the state. To help address the most urgent need, namely the closure or permitting of the approximately 200 MVWDWs currently on the state's inventory, the WDNR has committed to sending a draft plan to Region 5 by November 1, 2005. At the same time, Region 5 has committed to exploring opportunities for providing assistance including searching for discretionary funds to support field staff in evaluating existing facilities and/or the use of Region 5 staff to support various assignments related to MVWDW closure. Recognizing the need to consider innovative techniques to cope with the large number of potentially endangering wells which have not yet been identified, both agencies have agreed to explore approaches like Environmental Results Projects (ERP).

PROGRAM ADMINISTRATION

A. Class V Rule Adoption and Primacy Package Update

The Class V Rule was signed by the Administrator of the USEPA in December 1999 and became effective in direct implementation states in April 2000. The Rule provided additional regulation to MVWDWs and large capacity cesspools and also clarified definitions for some well types, like large capacity septics. In order to retain primacy authority, states were also required to adopt the new rule. While states are theoretically required to adopt the rules within 180 days, this requirement is unrealistic and USEPA negotiated schedules for adoption with almost all states.

WDNR quickly completed rule development and went through three public hearings. Generally, the comments were supportive; however, the Sierra Club and the Water Division of the Municipal Environmental Group (MEG - Water) expressed concerns over revised septic system standards and the point of compliance for nitrate standards included in the Wisconsin Department of Commerce's (Commerce) administrative rules (Chapter COMM 83, Wis. Admin. Code), as well as new flexibility on the nitrate standard which the Wisconsin Legislature granted Commerce. These organizations felt that WDNR should take a tougher stand on these issues and use the UIC program to oppose them.

WDNR's Board approved the proposed Class V rule for adoption in March, 2002. However, during legislative hearings reviewing the rule, the Wisconsin Builders Association and the Wisconsin Onsite Wastewater Recyclers' Association (WOWRA) sent letters to state legislators stating that they opposed the rules due to a perceived expansion of state inspection authority. They felt these regulations gave the WDNR broad authority to trespass even though WDNR currently has statutory authority to conduct such inspections. In addition, Commerce expressed concern over other activities that could potentially be interpreted as injection. Key members of the state legislature then asked the WDNR to address all of these concerns.

During the next two years, the WDNR consulted with the Region 5 and Headquarters offices of USEPA, and spent significant time educating the various groups involved as to the actual scope and intent of the UIC program. They also redrafted the language of the

state rule to address concerns without changing the basic points that are required under the Federal Rule. As a result of this long and sometimes arduous journey, the requirements of the final Class V Rule were adopted as state administrative rules that became effective on November 1, 2004, and met Federal requirements as well as local concerns.

The WDNR has since turned its attention to updating the original 1983 primacy package, which includes rules, statutes, a program description and an attorney general's statement of program authority. WDNR UIC staff have made considerable progress in updating these documents, however, they now need to know whether these changes will be viewed as a minor or major change by USEPA. If viewed as a minor change, Region 5 will be able to approve them. If viewed as a major change, the Administrator of USEPA would have to approve them through rule making, which is a long and complex process including public hearings. As a follow-up to the review, Region 5 agreed to meet with Headquarters counterparts to discuss the Wisconsin changes and determine whether it will be possible to consider them minor.

B. Budget/ Staffing

WDNR has faced difficult financial times over the past several years. The agency has been through three rounds of staff reductions, and further reductions are possible. The WDNR has been able to retain the UIC Program Coordinator as a full time UIC employee, however, the availability of other staff to assist him has been significantly reduced. This has included reduced hours available from WDNR's regional office staff, who are carrying a heavier workload, and the elimination of Limited Term Employees (LTEs) who previously had been available to assist with field identification of inventory and central office review of proposed industrial/automotive facilities designed to utilize UIC wells.

On the Federal level, since the national UIC budget has not been increased over the past 15 years, the Federal grants cover less activity each year due to the inevitable rise in salaries and other operating expenses over time. This situation will probably continue to get worse, as there is no immediate prospect of additional funding. In recognition of WDNR's urgent need for assistance in meeting the requirement to close MVWDWs, Region 5 representatives agreed to pursue short term options including seeking discretionary funds to fund an LTE for field verification of sites and assistance with closure reviews. Region 5 will also look into making Federal staff available to the state for short term targeted assignments.

C. Coordination With Other Programs

The WDNR UIC program has been highly effective in leveraging other programs within the WDNR to address the large variety of well types included under Class V. This has been accomplished through a variety of mechanisms ranging from the Memorandum of Understanding (MOU) between three Bureaus concerning remediation efforts, to more

informal contacts with various water programs. Among the notable coordination efforts are those with remediation, storm water, industrial permitting, large capacity on-site systems, public outreach like the Green Tier program, and the source water program. In addition, valuable technical support has been provided to the analysis of ASR projects.

While the time available for UIC involvement by regional office staff has been reduced due to budget constraints, experienced staff like the Southeast Region's regional hydrogeologist have provided invaluable assistance on key assignments. This effective inter-linkage between programs and offices has allowed WDNR to address many program areas despite having just over one workyear devoted to the UIC program, and serves as an example to other states on how to overcome resource limitations.

D. Coordination with the Wisconsin Department of Commerce

In Wisconsin, as in most primacy states, authority for regulation of large capacity septic systems is split between state agencies. This shared jurisdiction makes cooperation between the agencies vital to the effective implementation of that portion of the Class V program. The Wisconsin Department of Commerce (Commerce) has authority over septic systems and has signed a MOA with the WDNR which established roles and responsibilities for regulating various systems. For large capacity systems, WDNR regulates all non-domestic wastewater and issues permits for domestic systems of 12,000 gallons per day or greater. Commerce regulates all domestic systems and provides the only review to those domestic systems generating less than 12,000 gallons per day. Most Commerce reviews are in turn delegated to county zoning or health departments and in some cases, local governments; Commerce's role is primarily one of setting standards and providing oversight. Most counties are delegated responsibility for one and two family gravity flow septic systems. In addition, counties may also apply for authority to implement portions of the Chapter COMM 83, Wisconsin Administrative Code, rule changes which occurred in 2000. To date, 27 counties have taken authority for holding tanks, and three counties have authority to approve alternative systems. Counties with a population over 500,000 are not eligible to receive delegation of a private sewage program, although local governments within that county may be so authorized. At present, Milwaukee County is the only county so affected, although Dane County may soon reach that threshold. Commerce is also responsible for administering the Wisconsin Fund, which provides funds to allow counties to update their on-site system records to an electronic system, as well as provide partial reimbursement for replacement of failing septic systems.

While septic system approvals by Commerce and local units of government have always been intended only for domestic waste systems, in the past it was not always clearly communicated to the owners of such systems that disposal of other wastes would require the approval of WDNR. In addition, many businesses have been sold to new owners, who were not made aware of the limitations on septic system use. As a result of these practices, a number of systems have been used for disposal of industrial or motor vehicle waste. Through improved coordination between the two state agencies, steps have now

been taken to minimize the likelihood of such misuse occurring at facilities currently being permitted.

E. Reporting

During the past four years, USEPA has been involved in a detailed strategic planning process which includes the development of program specific measures for each environmental program. These include national Program Activity Measures (PAMs) which need to be reported at the mid-point and end of the Federal fiscal year. For Federal Fiscal Year 2005, the PAM measures affecting Class V program were the percentage of wells maintaining compliance, the number of inspections conducted per year, the percent of source water areas for which a Class V survey was completed, and the percent of MVWDWs closed or permitted. For Federal Fiscal Year 2006, the measures tracking Class V surveys and inspections will be dropped and a new measure added tracking the number and percent of high priority wells closed in source water protection areas.

In addition, the Office of Ground Water and Drinking Water in EPA Headquarters has led a major effort to define Measures of Success for the UIC Program. These measures will be used to set priorities for the UIC program and thus Headquarters has worked closely with the states and Regions to try to define those activities which best measure program effectiveness. This has included conference calls with states and Regions, as well as working through the Ground Water Protection Council. WDNR has been an active participant in this process and the input provided by the state has been very helpful to the national effort. A major focus has been to try to avoid excessive additional reporting, by utilizing the existing 7520 Reporting Forms. These Measures have recently been finalized based on the PAMs; initial reporting, including setting baseline numbers, will occur during October 2005.

USEPA continues to require submission of the 7520 reporting forms, which have been utilized since the inception of the UIC program. The WDNR has consistently provided these forms to the Region at or ahead of all required due dates. There had been an effort initiated several years ago to substantially revise these forms, however, any changes were put on hold due to the Measures of Success effort. EPA Headquarters has also initiated a process to develop a new national UIC database. This database would consist of certain key elements which could be electronically accessed from state databases, without the need for the states to change their individual systems. When such a system is implemented, it should be possible to discontinue use of the 7520 forms. Unfortunately, development and implementation of this system will probably be a lengthy process, so WDNR should expect to continue submitting 7520 forms for at least the next several years.

The WDNR has also consistently met all grant requirements. Annual grant applications and workplans have consistently been submitted in time to qualify for an early award of

the annual on-going program grant. The submissions have been complete and accurate and very little follow-up has been required. The WDNR has also provided informative and timely narrative reports on a quarterly basis to meet grant requirements.

F. Data Management

The WDNR currently keeps the state's inventory of Class V wells on spreadsheets on the personal computer of the UIC Program Coordinator. While this is an adequate system given current state data needs and the size of the program, back-up to the system is needed so that a computer malfunction does not cause the data to be lost. Currently, the UIC Program Coordinator backs up the system on a disc on a periodic basis. While this is probably adequate for current needs, additional back up on the state's computer system, such as through a local area network, would allow the database to be accessed by others who may need to, at any time. As mentioned before, USEPA is currently moving to link all state databases together to create a national UIC database for reporting purposes, so it is important that any system utilized by the state be able to be accessed from a remote location.

G. Quality Assurance Management Plan (QMP)

The WDNR and Region 5 agreed to the development of an agency wide QMP as part of the Environmental Performance Partnership Agreement (EnPPA). WDNR has worked within the context of the agency QMP to ensure that UIC program concerns are addressed. As a result, WDNR has no plans to create a separate QMP for the UIC program at this time.

H. Partnerships/National Activities

The WDNR has historically played a strong role in national activities affecting the UIC program. The UIC Program Coordinator has participated in a number of national workgroups including USEPA's UIC Measures and Reporting Workgroup and the Ground Water Protection Council (GWPC) Class V Workgroup, which is co-sponsored by USEPA. He has also made presentations on Class V issues at an April 2004 national ASR meeting in Florida, and at various GWPC meetings. WDNR's input has been very timely, and has helped shape national directions to assure that state and Regional concerns are considered. We regret that travel restrictions have curtailed WDNR's participation in many of the national meetings where policies are being debated; we would encourage the state to take advantage of GWPC's offer to fund the travel of key state representatives to many of these meetings.

Recommendations/Conclusions

1. We commend the WDNR on a determined effort to enact new Class V rules in Wisconsin to incorporate the December 1999 Federal Rule covering motor vehicle waste disposal wells and large capacity cesspools, as well as other needed

clarifications. We are pleased that the WDNR has been able to resolve public misconceptions on some of these changes.

2. Region 5 recognizes the reality of budget shortfalls that are affecting governments on all levels. We realize that this has made it difficult for the WDNR to fully address even the highest priorities. We appreciate the effort to close existing motor vehicle waste disposal wells and the Region will explore ways to support the state in accomplishing this goal. We will explore potential mechanisms for supporting a part time employee to help with field verification for closures and we will also make Regional employees available for short term targeted assignments to expedite the closure effort. We will also agree to take a limited number of referrals of recalcitrant well operators who fail to cooperate with the state on closure efforts.

3. We commend the Bureau of Drinking Water and Groundwater for the outstanding coordination with other programs and the district offices that they have been able to achieve. The spirit of cooperation among the various program representatives is self-evident and has enabled the UIC program to have a positive impact well beyond its limited resources.

4. We are encouraged by the coordination that is occurring between the WDNR and the Wisconsin Department of Commerce (Commerce), and the increased attention that Commerce is providing to try to minimize the misuse of septic tanks. We realize that getting a firm handle on activities which may have occurred at possibly 75,000 sites, which may mostly have been reviewed at the county level, is quite a challenge and we would like to meet with the state agencies sometime in the future to further discuss how we might be able to help.

5. The WDNR has done an outstanding job of meeting all USEPA reporting requirements and has served as a valuable member of the UIC National Measures Workgroup, where program elements for future national emphasis were identified.

6. The data management system maintained by the UIC Program Coordinator on his personal computer has been sufficient for current needs, along with the manual back-up via disk. The USEPA is however moving toward a new national data system that would extract key data elements via remote access from a state's system whenever reporting is required, thus alleviating a major reporting burden. To support this effort, the state's system would need to be accessed from outside and thus would need to be located on something like a local area network. While it will probably take at least a few years to implement such a national system, we would encourage the WDNR to work toward making the Class V database more widely accessible.

7. Region 5 will verify if any further actions will be needed by the WDNR UIC program in the near future with regard to quality assurance requirements.

8. The WDNR has always played an outstanding role in national activities and has contributed toward the success of various USEPA and GWPC initiatives that directly impacted states and the regulated community. This has included participation at national meetings, presentations, and workgroup involvement. We regret the travel limitations over the past few years that have restricted key staff from attending important national meetings of direct impact to the state's program. We would encourage WDNR to take advantage of offers by GWPC to cover travel expenses for some of these key meetings.

TECHNICAL

A. Closure and Prevention of Motor Vehicle Waste Disposal Wells

WDNR currently has an inventory of slightly over 200 motor vehicle waste disposal wells. The closure requirements adopted by the state became effective on January 1, 2006, so the state is now making plans on how to implement these requirements in the absence of significant resources. The UIC Program Coordinator is planning an outreach campaign to be initiated this fall that will target owners and operators through trade association and state and local officials. This will be followed by letters notifying each of the owner/operators of currently identified MVWDWs of the closure requirements. The UIC Program Coordinator will work with the regions and central office staff to cross check the inventory list with sites that have been dealt with by other programs, such as the remediation program. One good source of information is expected to be the Bureau of Remediation and Redevelopment Tracking System (BRRTS).

The WDNR has provided a commitment to Region 5 to close all of the currently inventoried MVWDWs during the next three Federal fiscal years in order to help the Region in meeting national UIC priorities. This will include 40% of the wells during FY 2006, 40% during FY 2007, and the remaining 20% during FY 2008. This is a very ambitious undertaking and the state will need support from Region 5 to accomplish this goal. As a first step, the Region hosted a workshop on closing MVWDWs in Chicago in August. The workshop brought together programs that had closed a significant number of MVWDWs, such as the State of Ohio and USEPA Region 8, who shared techniques with other Regions and states, such as Wisconsin. The UIC Program Coordinator was an active participant in the session and shared WDNR's plans and challenges. The Region is also sharing with the state the various closure documents that we have prepared for our closure efforts in the three states where Region directly implements the Class V program.

During the program evaluation, various approaches to assist the closure effort were discussed. Region 5 agreed to look into the possibility of obtaining discretionary funds to support, possibly on a part time basis, a LTE type individual who would verify the continued existence of MVWDWs on the inventory, and would possibly assist with

closure reviews. Depending on the funding source, such a position could either be funded directly through the WDNR, or if necessary, the individual could be employed through the USEPA intern program. Region 5 will also look into the potential for making Regional staff available for well-defined short-term assignments, such as comparison of various site lists. WDNR agreed to provide a draft plan for closures to Region 5 by November 1, 2005. This was provided in a phone conference with the UIC Program Coordinator, and included the following: (1) sending the letters in January 2006: (2) negotiating with operators during February and March 2006; and (3) beginning referrals to Region 5 for enforcement action of any non-cooperative operators in April 2006. Region 5 agreed to try to provide the requested assistance to the extent resources allow and will negotiate with the state once the formal plan is received.

While closure of MVWDWs remains the highest priority for both the WDNR and Region 5, it is also important to ensure that additional new MVWDWs are not constructed or developed. To ensure that this does not occur, the WDNR's UIC program has placed significant emphasis on working with the WPDES wastewater permitting program. In the past, this has included the part time services of an LTE who supported the plan review effort. While resource reductions no longer allow for this position, the need to question the use of every floor drain has been built into the permitting program and applicants are advised that other alternatives, such as holding tanks, must be pursued. Designers in the state have become aware of these requirements and thus most applicants now either request a holding tank or seek a drain only when it is to be only used for vehicle washing and snowmelt. Similar progress has also been made in working with the Department of Commerce to assure that applicants seeking permits through their program can only utilize septic tanks and other subsurface drainage for normal sanitary sewage.

B. Management of Other High Priority Class V Wells

In addition to MVWDWs, other wells may also pose a high risk of endangerment to the environment. This is especially true of industrial facilities such as dry cleaners, metal finishers, wood strippers and many other practices. USEPA had originally proposed including such facilities under the Class V Rule, however, industrial disposal wells were not included in the final version of the Rule, due to the wide diversity of types of activities covered under this well type. For the some of these practices, the impacts on ground water may be just as severe as MVWDWs, and thus USEPA has included closure of such endangering wells in source water protection areas as a national Program Activity Measure.

The WDNR has recognized the threat posed by such wells, however, with only limited resources available for UIC activities, they have agreed to devote maximum resources to the closure of currently identified MVWDWs in accordance with direction from USEPA

Region 5. Accordingly, the WDNR does not anticipate being able to investigate the status of industrial disposal wells on the inventory until such time as the MVWDWs have been addressed. In the interim, they will only be able to respond, usually through regional offices, to instances of apparent contamination or citizen complaints. It is hoped that the state's on-going outreach effort will bring about voluntary compliance measures by some of these well operators.

C. Gathering Additional Inventory of High Priority Class V Wells

At present, the WDNR has only completed county-wide surveys of approximately one-third of the 72 counties in the State of Wisconsin. These surveys were primarily completed by LTEs, however, with budget reductions, the WDNR has not been able to fund such positions for the past several years. While resources for the next few years will be focused on closing MVWDWs, it is recognized that here may be many more high priority wells, including MVWDWs, which have not yet been inventoried.

Since it does not appear likely that resources will increase in the few years, it will be necessary to consider alternative methods of finding high priority wells, so that they can be properly addressed. Region 5 and WDNR discussed use of regional office staff, however, very limited time is likely to be available in the regions, due to increased workloads and reduced resources. While USEPA Headquarters has placed a high priority on gathering additional inventory, it does not appear likely that Federal staff will be able to provide additional resources to assist states with this effort.

One other approach, which has been used with success by the Air Program in Wisconsin, is the use of Environmental Results Projects (ERP). These projects utilize outreach and compliance assistance to make the regulated community aware of their obligations under various regulations and provide them with a means of achieving voluntary compliance. This is accomplished through the use of targeted material, including workbooks, which can be customized to individual needs. This is then followed by self-certification, with a random sample audited for verification. This approach may not necessarily reach all of the operators identified through field surveys, due to the wide range of types of facilities that have been found to have MVWDWs. It does, however, have the potential of significantly increasing compliance for a relatively modest investiture of resources. It appears likely that an ERP project focusing on the UIC sector will be funded in Illinois and it may be possible for Wisconsin to either tie into that project at a later date, or at least utilize some of the lessons learned and documents developed. Region 5 and WDNR agreed to hold follow-up discussions on this potential approach.

D. Aquifer Storage and Recovery (ASR) Wells

Aquifer Storage and Recovery has become a growing method of water use planning in

areas of the United States where fresh water supplies are at a premium, such as in Florida and the Southwest. The techniques developed there are being introduced into other parts of the country, such as the Midwest, where economics, rather than scarcity, tend to drive water supply decisions. In Region 5, the first two ASR projects have been in the State of Wisconsin. The Green Bay project injection resulted in elevated arsenic levels in the drinking water aquifer which caused the City of Green Bay to abandon the project. The Oak Creek project has been more successful, and is still operating, although not all questions, including the gradual rise in tri-halomethane levels and increasing concentrations of manganese in the aquifer, have been fully resolved.

The WDNR has taken a very active role in reviewing ASR technology and has very carefully monitored the two Wisconsin projects. In many parts of the country, it appears that regulatory agencies have merely contented themselves with assuring that the recovered water was safe to drink, even if additional treatment was required to meet that standard. The WDNR has gone much further by seeking answers to such fundamental yet often ignored questions as the fate of the aquifer beyond the storage 'bubble", the nature of reactions within native formation when water of a differing oxygen content is introduced, and the general consequences of upsetting the native equilibrium of an aquifer. They have also pursued the fate of chorine by-products, which are introduced into an aquifer when treated drinking water is injected for storage, and which have not proven to readily dissipate despite assertions to the contrary by consultants. The WDNR has sought input from Region 5 on the key ASR issues being addressed, and the agencies have worked very closely together in assuring that the drinking water aquifers were protected at these sites.

The efforts of the WDNR to try to understand and properly regulate the complex interactions caused by ASR wells have served as a national model, and have done much to further the national dialogue on this technology. WDNR staff made presentations at the April 2004 American Ground Water Trust's ASR IV Symposium in Tampa, Florida, and the September 2002 and September 2005 Annual Forums of the GWPC. Input from the WDNR was also sought for other GWPC sessions, such as in September 2004 and March 2005, when WDNR representatives could not attend due to travel restrictions. USEPA and the GWPC are both pursuing further discussions and study of ASR impacts, and the assistance of WDNR representatives has been sought to further this effort. Region 5 has now received ASR applications for the Region's direct implementation program, and has consulted with WDNR experts on many of the lessons learned through the Wisconsin projects.

E. UIC Connections to the Source Water Protection (SWP) Program

The SWP Program seeks to protect public drinking water supplies through protection of the source of supply from contaminants. For ground water based systems, one of the leading sources of contamination is that posed by injection wells. The WDNR has now completed source water assessments of all Wisconsin public drinking water systems and

is moving to the next phase of seeking the development and implementation of source water protection plans by communities. In Wisconsin, over 2,000 community wells and over 10,000 non-community wells were assessed. Over 2,000 potential UIC contaminant sources were identified inside source water areas. These included auto body shops, gas service stations and motor vehicle repair shops. It is possible that many of these sites may be in sewered areas, which will require further investigation.

Because of the vulnerability of drinking water wells at these sites, they need a higher priority for investigation to determine which ones actually contain Class V wells, with emphasis on endangering wells such as MVWDWs. With already thin resources being stretched to close existing MVWDWs, it is not likely that traditional resources will be available, at least in the short term, to pursue this task. One possibility might be to include some of these facilities in an ERP project, if one is eventually developed. In the near term, the WDNR suggested that this might be an excellent opportunity for Region 5 assistance, either through direct staff involvement or through limited funding for an LTE type position to begin to address some of the more likely sites. This could be accomplished either through discretionary funds if the Region is able to find some, or through USEPA support programs like the intern program or the Senior Environmental Employment (SEE) program. The Region agreed to further pursue these concepts.

F. Storm Water Drainage Wells

Storm water drainage wells have long been a concern to the WDNR UIC program. Over 15 years ago, a substantial number of these wells were discovered in areas with sandy soils, primarily in north central and southwestern Wisconsin. Since these types of wells are technically not allowed under Wisconsin regulations related to the UIC program, the state for many years considered whether variances could be granted. However, investigations of the existing wells indicated that the threat that they posed to ground water resources was minimal. As a result, with the advent of new storm water regulations under the WPDES program, the state determined that it would be more effective to regulate these facilities under that authority.

Wisconsin laws consider "waters of the state" to include ground water. Regulation is provided under NR 151, which allows ground water infiltration on-site. Design based standards are used and guidance and best management practices are provided for use in implementation. Construction sites are a primary focus. The WDNR has a number of criteria that they apply to storm water wells. Horizontal pipes that discharge into unsaturated soils above an aquifer are acceptable, but vertical pipes that discharge directly into an aquifer are not. There may be a few vertical pipes which were grandfathered in with restrictions, but operators are required to replace them with a horizontal pipe should any reconstruction occur. State administrative rules also require a 400 foot setback from public water systems wells and a 100 foot setback from other wells. When violations are found, such as a golf course that had drywells, they were required to take the wells out. The major problem that has been detected with these types

of wells is the build up of nitrates and chlorides. The Department of Commerce also has jurisdiction over some storm water wells constructed in connection with a building; their regulations prohibit industrial disposal through such wells.

G. Remediation Wells

The Bureau of Drinking Water and Groundwater has worked with the Bureau of Remediation and Redevelopment (BRR) since the early 1990's under a Memorandum of Understanding (MOU). This has worked well since all clean-up efforts in the state are centralized in one program and almost all members of that group have at least 10-12 years experience and are familiar with the drinking water related concerns that need to be considered in a clean-up. This integrated approach has streamlined the process and allowed for greater consistency. The BRR uses a coordinator to serve as a resource to regional offices and consultants regarding such subjects as requirements for a permit, allowable injectates, etc. The UIC program is kept informed of projects for which remediation wells are proposed, and they provide general oversight.

The actual approval letters for the specific projects are written by the BRR in accordance with the MOU. The types of projects most often approved include the use of oxidants like potassium permanganate and reactants like molasses. One clean-up that supported the UIC program during FY 2005 was the closure of three MVWDWs at the Badger Army Ordinance site.

H. Large Septic System Wells

Large capacity septic system wells are an area of national interest to the USEPA. There are a very large number of these wells in existence in every state, and evidence is increasing that in many cases these systems have not been properly designed, operated or maintained. As previously mentioned in the Program Administration portion of this report, the Wisconsin Department of Commerce (Commerce) is responsible for permitting most large septic tanks in the state with a conservative estimate of approximately 75,000 in the state. Commerce is working with the counties to create an electronic database, although funding is limited and it may a long time to complete the effort. The WDNR issues discharge permits to systems greater than 12,000 gallons per day or more than 85 bedrooms. While this is a much smaller number of wells, the impact may be significant due to the volumes discharged and thus the WDNR holds these systems to a higher level of treatment usually including some nitrogen removal. If the technology is appropriate and the proposed facility is not in a source water protection area, it may be possible to include it under a general permit, where reporting may be reduced and monitoring may be eliminated in some cases.

I. Innovation and Outreach

As previously mentioned the Environmental Results program (ERP) has the potential to assist in gathering inventory and controlling endangering wells through compliance assistance and self-monitoring. Another possible tool to assist with some facilities is the Green Tier program. This program also seeks to engage businesses in creative environmental solutions. Companies that participate in the program may be willing to take protective actions for various types of wells, such as industrial waste disposal, which go beyond what is required by regulation. Outreach is another tool that the WDNR has used to reach a larger audience despite limited resources. This has included presentations by the UIC Program Coordinator, articles in various publications such as those of trade associations and information posted on the website of the Bureau of Drinking Water and Groundwater. With the approach of the effective date of the ban on existing MVWDWs in Wisconsin, the Bureau has put increased emphasis on providing information through the website.

Recommendations/Conclusions

1. Region 5 is very pleased with the commitment by the WDNR to close the existing MVWDWs on an expedited schedule. We will do all that we can to support this effort including assistance by Region 5 staff whenever possible.

2. We commend the WDNR on the progress which has been made in assuring that new facilities do not use floor drains for disposal of motor vehicle or industrial fluids. We understand that dealing with existing facilities will need to be on a case by case basis when problems are identified, since the WDNR has committed to maximum use of available resources to close MVWDWs as a top priority.

3. The current inventory of MVWDWs and industrial waste disposal wells highlights the value of targeted inventory efforts. Since two thirds of the counties in Wisconsin have not yet received an intensive inventory effort, the WDNR may wish to consider use of non-traditional methods in the remaining areas, since it is unlikely that resources will be available for intensive on-site work. One approach which has shown promise is the use of Environmental Results Projects (ERP), and the Region would be happy to assist the WDNR in an application for that program.

4. The WDNR has assumed a very prominent national role with regard to aquifer storage and recovery (ASR). Through a very diligent review of the two sites in Wisconsin, they have raised many questions and gathered much useful information, which will be of immense benefit to USEPA and other national organizations in devising national policy in this developing area. Region 5 is very

appreciative of the state's leadership in ASR, the cooperative spirit in which both agencies have worked together on the problems identified at the Green Bay and Oak Creek sites, and the invaluable advice that the state is providing the Region on our own sites in direct implementation states.

5. Region 5 commends the Bureau of Drinking Water and Groundwater for the cooperative relationship that has been forged with various other programs to assure that UIC concerns are properly addressed when actions are taken. This includes the source water protection program, the storm water program, the remediation and redevelopment program, the WPDES permitting program including on-site systems, and innovative programs like the Green Tier program. We also commend the excellent working relationship between central office staff and regional office staff and the support provided by many of them, despite many competing priorities and constrained resources.